HW - Due Tuesday, March 29 {33 points}

In class we worked through a time series data set reporting the number of West Nile cases in California. In this assignment you will develop a time series data visualization and further develop your final project by adding a time-series visualization on your proposed topic.

Displaying time on a graph is often done in one of two ways. A two-dimensional line graph is often used when investigating how a single variable changes over time. Time is displayed along an axis (usually the x-axis) and the data of interest is displayed along the y-axis. A line is used to connect the data values because both time and lines are continuous. A bar chart, on the other hand, with discrete values would rarely be used to display time data. The other common way to look at time is with animation. The visualization would change over time just as time itself changes.

Your line graph/time series will follow the same pattern as the previous bar chart assignment and will include a title, question, visualization, and explanation. After the assignments are submitted you will give feedback to classmates on their designs to help improve their final project.

You also provided (and received) constructive feedback for your classmates' bar charts. Use that insight you used when evaluating other people's visualizations to help design your current visualization and clarify your write-up. As with all assignments in this class, you will have multiple chances to update and improve upon your design.

Overview

In this exercise you will:

1. Work with your assigned partner.
2. Look at your data sets and determine if your data includes a time variable. If not, you will need to look for another data set that does include time. This dataset should be related to your topic of interest if possible.
3. Build a line graph visualization with time as one of the axes.
4. Build a web page to guide a reader through looking at your line graph.
5. Upload your web page to Davidson Domains.
6. Bonus: You are starting to collect more webpages. You may want to have a landing page where you can click on a button to look at your bar chart or line graph. This will

be a future assignment, but you can start thinking about it now. You are welcome, but not required, to use WordPress or similar.

Web Page Criteria

You will build a web page that resembles a news article including the following:

- A catchy headline
- Your line graph visualization
- An explanation introducing a question about your data that the line graph may help answer
- The argument to help answer your question that is clearly supported by your visualization
- Your visualization must include time series data displayed on an axis that is parsed into a time object using the `d3.timeParse` function.

Selecting and appending should be used when organizing the basic structure of your web page. Your page should also be clearly organized. Here is an example organization.

- body
  - h1 (heading tag)
  - p (paragraph about the question being asked)
  - svg (the bar chart)
  - p (paragraph explaining how the bar chart is helping to answer the question)

Grading Criteria

1 point Clear title at the top of the page that catches the attention of the reader

3 points Explanation of, and problem you are attempting to answer

1. Unclear and not well defined question, may not relate to the presented data
2. Question open to interpretation, or not obviously supported by the data
3. Clearly defined question that is related to the data

9 points Line Graph

1. There is a critical issue with the graph or the data displayed on the chart.
2. The visualization is missing an essential piece (color, axes, incorrect data types, no time objects)
3. Visualization that displays appropriate data. It uses color to catch the eye without being obnoxious. The axes are clearly labeled.

12 points Code clarity and quality.

1. Code does not work as intended or does not compile.
2. Code is repetitive or inefficient. Code may be hard to read, or is incorrect.
3. Code is missing one of the following: correct, clean, readable, elegant, documented, and non-repetitive. The page may be unorganized.
4. Code is correct, clean, readable, elegant, documented, and non-repetitive. The web page is well organized and structured.

8 points Supporting argument tied to visualization

1. Unclear and not well explanation of question, may not related to the visualization.
2. Argument is open to interpretation, or obvious. The argument lacks follow-on comments that could be related to what was learned. From the example above, don't limit the discussion to "July is the hottest month." Discuss this in relation to other months or to information that is known beyond just looking at the chart. Write-up may include numerous grammatical or spelling errors.
3. Clearly answered question with additional insight. Insight may be limited or non-engaging. Write-up may include minor grammatical or spelling errors that detract from readability.
4. Clearly answered question that is related to the data with insightful commentary. Discussion proposes follow-on questions related to the data that cannot yet be answered with the current visualization. Write-up has been proof-read and does not contain grammatical or spelling errors.

Submission

One partner will submit for the pair.

1. Add your webpage to your Davidson Domain

2. Upload the link to the Moodle submission form.

3. It is harder to perform anonymous evaluation now that we moved to data on topics of interest. We will still be looking at each other's code and providing constructive code and design feedback.